

ABSTRACT OF THE DISCLOSURE

Epitaxial wafers showing marked IG effects can be manufactured from silicon single crystals doped or not doped with nitrogen without requiring any additional heat treatment process step while reducing the density of epitaxial layer defects. According to the first manufacturing method, an epitaxial layer is allowed to grow on the surface of a wafer sliced from a single crystal produced by employing a cooling rate of not less than $7.3^{\circ}\text{C}/\text{min}$ in the temperature range of $1200\text{-}1050^{\circ}\text{C}$ in the step of pulling up thereof. According to the second manufacturing method, an epitaxial layer is allowed to grow on the surface of a silicon wafer sliced from a silicon single crystal doped with 1×10^{12} atoms/ cm^3 to 1×10^{14} atoms/ cm^3 as produced by employing a cooling rate of not less than $2.7^{\circ}\text{C}/\text{min}$ in the temperature range of $1150\text{-}1020^{\circ}\text{C}$ and then a cooling rate of not more than $1.2^{\circ}\text{C}/\text{min}$ in the temperature range of $1000\text{-}850^{\circ}\text{C}$ in the step of pulling up thereof.